

PRIOR ART

FIG. 1

# FORCE VS. STROKE CHARACTERISTIC OF THE PRIOR ART

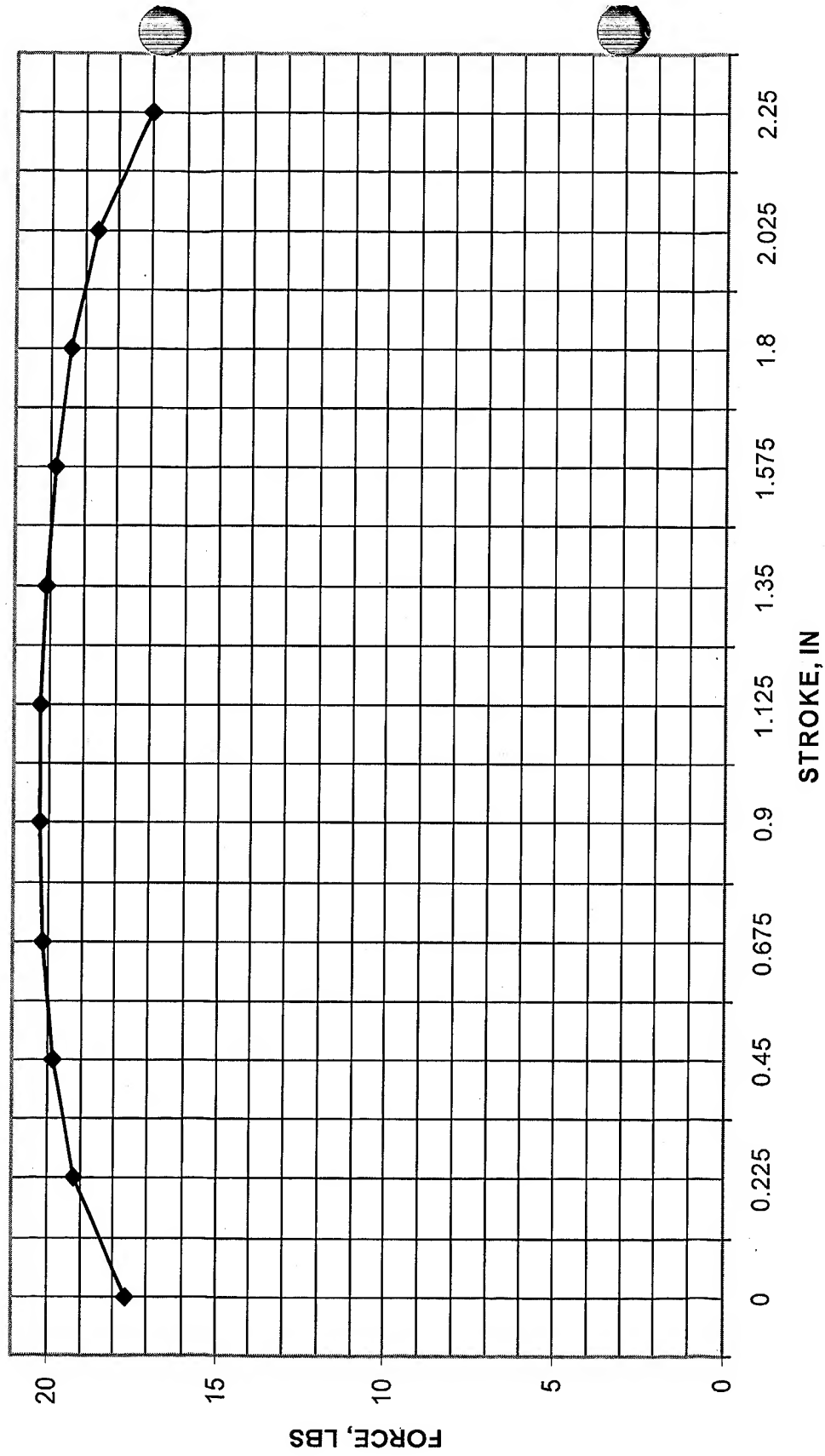


FIG. 2

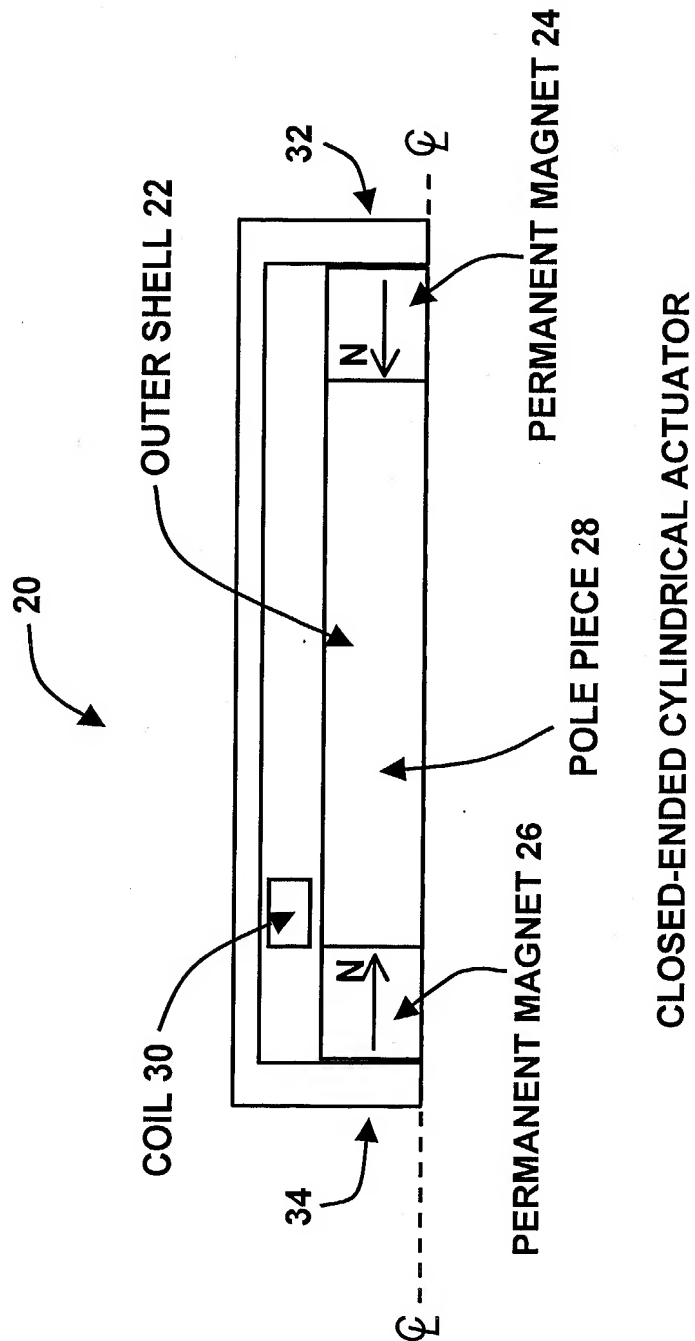
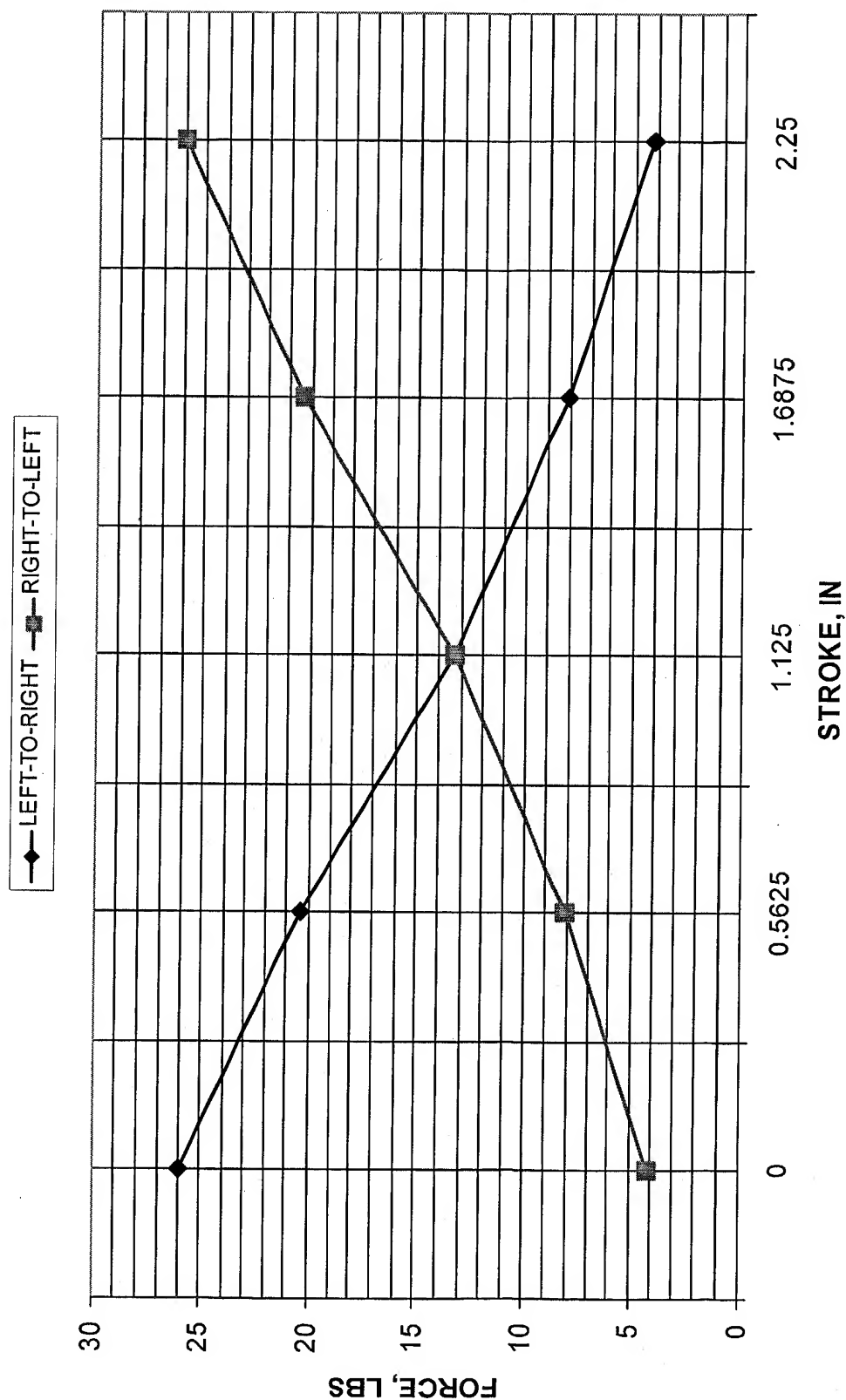
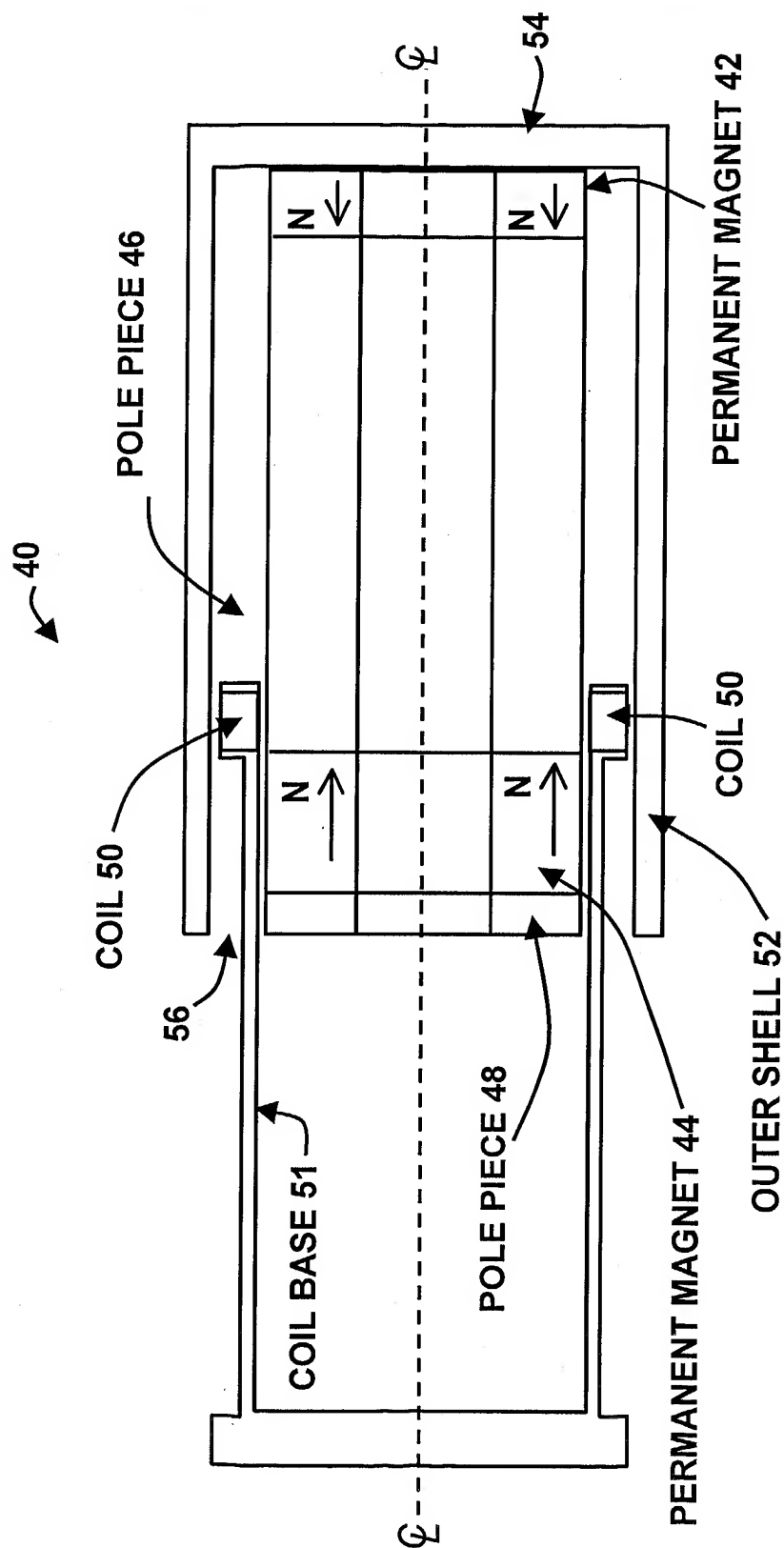


FIG. 3

# FORCE VS. STROKE CHARACTERISTIC OF A CLOSED-ENDED CYLINDRICAL ACTUATOR



**FIG. 4**



OPEN-ENDED CYLINDRICAL ACTUATOR

FIG. 5

# FORCE VS. STROKE CHARACTERISTICS OF AN OPEN-ENDED CYLINDRICAL ACTUATOR

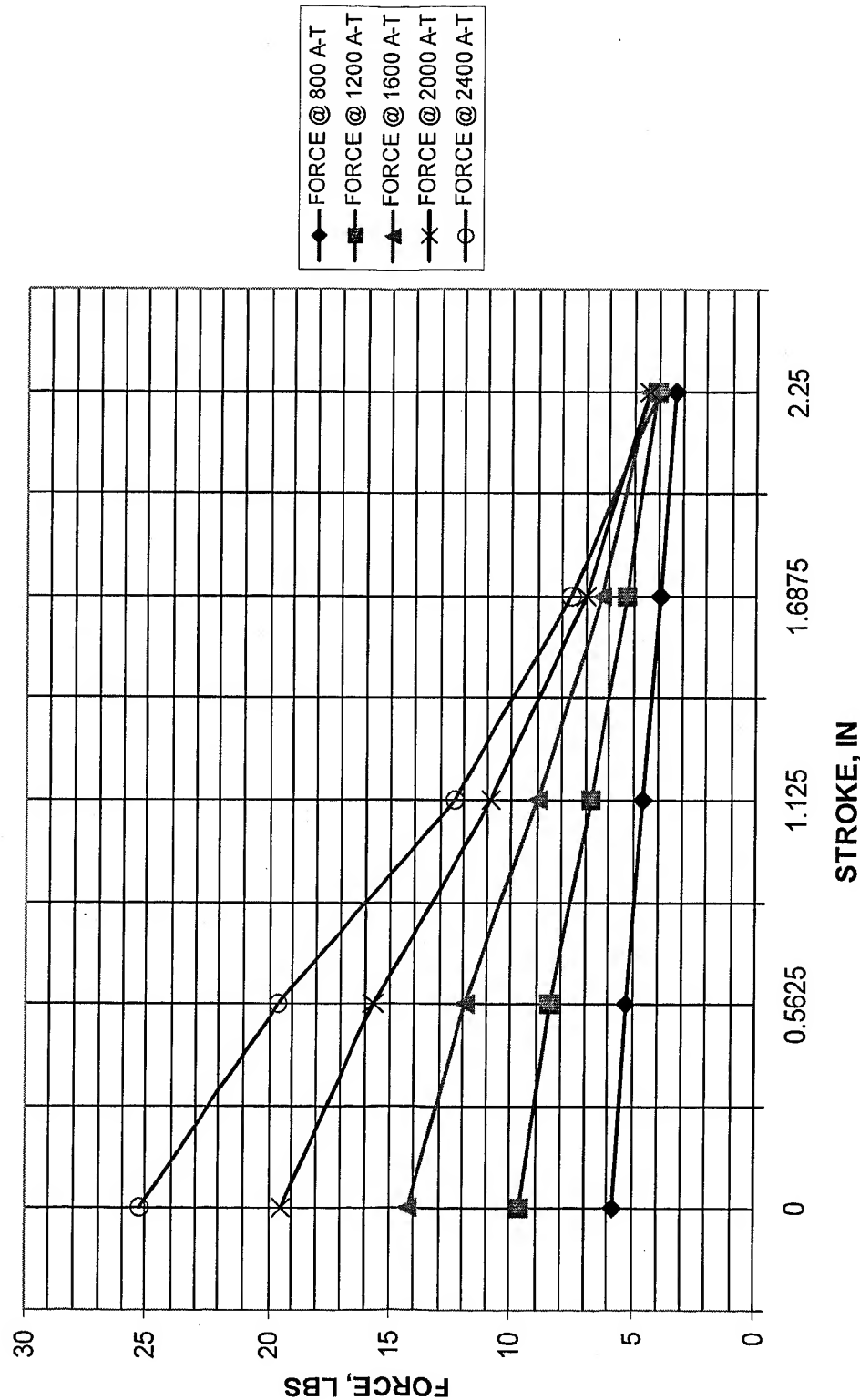


FIG. 6